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ABSTRACT

These guidelines are intended to aid Maryland teachers in managing the child with diabetes in the classroom. After a brief description of juvenile onset diabetes, information is provided on signs and symptoms of diabetes, general management, recognition and treatment of hypoglycemia, treatment, other recommendations, recognition and treatment of diabetic ketoacidosis, and ways to help the child adjust to school. Meeting the child's special needs while treating him/her as much as possible like the other children in the class is stressed. (DB)

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GUIDELINES FOR THE CHILD WITH DIABETES IN THE CLASSROOM

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Maryland State
Department of Education

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Department of Health and Mental Hygiene

American Diabetes Association, Maryland Affiliation

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THE CHILD WITH DIABETES IN THE CLASSROOM

General Information - Juvenile - onset diabetes is a chronic metabolic disorder characterized by abnormalities in the metabolism of carbohydrates, protein and fat. Insulin is deficient or missing and must be taken by injection. It is also necessary for children with diabetes to monitor blood sugar levels on a regular basis and to follow a meal plan which usually consists of 3 meals and 2 or 3 snacks. The onset usually occurs during childhood or puberty and affects about 1 in 300 children in the school-age population.

Signs and Symptoms of Diabetes Include:

- excessive thirst
- excessive urination
- fatigue
- vaginitis in girls
- increased appetite
- weight loss

Advanced symptoms include:

- abdominal pain
- nausea/vomiting
- shortness of breath
- mental confusion
- weight loss

General Management - The management of diabetes in children is very different from diabetes management in adults. Children usually require 2 insulin injections a day along with 2-3 snacks a day. Many adults can be managed with oral medication or diet since they are still producing insulin. Some youngsters may need to receive insulin 3 or 4 times a day, which may interfere with the school routine. A few wear insulin pumps, which help deliver insulin in a more consistent manner.

Recognition and Treatment of Hypoglycemia (low blood sugar or insulin reaction) - This is the most common medical emergency you may encounter in the school with a child with diabetes. **IT REQUIRES PROMPT RECOGNITION AND IMMEDIATE TREATMENT**. The most likely times to suspect low blood sugar would be close to a meal or snack time or following physical activity such as recess, gym, band, etc.

a. Early Warning Signs (adrenalin "stress response")

1. Shakiness and tremors
2. Pale appearance

3. Rapid and strong pulse
4. Sweating
5. Unusual hunger

b. Central Nervous System Signs (caused by lack of sugar to the brain)

1. Sudden mood swings or inappropriate behavior
2. Drowsiness or sleepiness or inability to concentrate
3. Headache
4. Confusion
5. Yawning, lethargy

c. Severe Reactions

1. Loss of consciousness
2. Convulsions or seizures

Treatment - treat as soon as you recognize symptoms (i.e., early warning signs). This should be done in the classroom and without disruption when possible. IF IN DOUBT as to whether it is low blood sugar, it is always best to TREAT with one of the following:

1. 4 - 6 oz. fruit juice or soda (not diet)

2. 1 tablespoon honey or sugar

3. Parents may provide you with commercially prepared items such as Glucose, Insta-glucose, BD glucose tablets or Cake Mate icing.

NOTE: If symptoms do not subside in 10 minutes, repeat the treatment. If child does not respond to treatment call 911 and notify parents.

Other Recommendations:

1. If a meal or snack is not scheduled within the next 15 minutes, follow initial treatment with protein and carbohydrate snack such as milk or cheese crackers, peanut butter.

2. Never leave a child alone during a low blood sugar reaction.

3. You cannot harm a child with diabetes by giving sugar if the blood sugar is not low. It will only increase the blood sugar for a short period of time.

4. If the child is unable to swallow liquids or food, is unconscious or having a seizure, Glucagon (a prescription medication that is given by injection and must be prescribed by the child's physician) may be administered by the nurse.

5. If Glucagon is given or if the child does not respond to oral treatment or is unconscious or having a seizure, call 911 and the parents or guardian. Notify the school administrator.

6. Notify parents of all incidents of low blood sugar reaction. The most likely times to suspect low blood sugar are close to a meal or snack time or following physical activity, such as recess, gym, band, or chores. It should not be necessary for parents to come to school for every reaction.

Recognition and Treatment of Diabetic Ketoacidosis - Ketoacidosis is the result of prolonged high blood sugar and insulin deficiency. In contrast to low blood sugar, the symptoms come on gradually and take hours to days to develop. However, if severe enough and uncorrected, it can lead to a coma. This condition requires medical attention and treatment.

1. Warning signs of diabetic ketoacidosis

    1. Excessive thirst
    2. Excessive urination
    3. Dry, flushed skin
    4. Very deep, rapid breathing
    5. Breath which smells fruity
    6. Eyes that appear sunken
    7. Nausea/vomiting
    8. Abdominal pain
    9. Aching, tired, or generally ill
    10. Increased appetite

2. Treatment

    1. Notify parents
    2. Call 911 for transportation to a medical facility

What you can do to help the child with adjustment to school:

1. Meet with parents and child at beginning of the school year to discuss concerns.

2. Develop a nursing care plan including arrangements for blood/urine testing and/or insulin/glucagon injection. The arrangements include:

   a. A private space
   b. Handwashing facilities
   c. Containers for trash and sharps disposal
   d. Adult support, monitoring or assistance as indicated.
   e. Materials to record results.
   f. Food sources of readily absorbable sugar.

3. Notify appropriate school personnel, including substitute teachers, about children with diabetes.

4. Most children with diabetes require snacks during the school day. Arrangements for snacks should be made with the least disruption to the child's school day. It is important that meals and snacks be eaten on time to prevent low blood sugar. Arrangements for the child to bring the snacks from home to school should be made during the meeting with parents at beginning of the school year.

5. Allow minor low blood sugar reactions to be treated in the classroom. This should be done calmly and efficiently. Most children are taught at an early age to carry some form of sugar (e.g., Cake Mate) for use in a low blood sugar emergency. Some children recognize oncoming symptoms and prefer to respond unobtrusively. As a back-up, teachers should have glucose preparations such as Insta-Glucose, Lifesavers or Cake-Mate to treat reactions. Arrangements should be made so all reactions can be recorded.

6. Since children with diabetes should avoid foods with a lot of sugar, parties or special events should include foods a person with diabetes may eat. Use nonfood items for rewards or treats for all children, when possible.

7. Children with diabetes have no restrictions on physical activity and should be encouraged to participate in sports, gym class, etc.

8. Some children enjoy demonstrating blood glucose monitoring or insulin injection techniques during health education classes or for science projects. In a unique way, it allows teachers and other children to understand the complexities of living with diabetes. It also gives the child with diabetes a sense of

It also gives the child with diabetes a sense of feeling important. This should be an individual decision.

9. Arrangements for the diabetic child should be made so the child may attend field trips and other out-of-school events.

10. Above all, try to treat the child with diabetes as you would other children in the class.

Signature _____ Date 5-14-91
Maryland State Department of Health and Mental Hygiene

Signature _____ Date 5/28/91
Maryland State Department of Education